This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

LANE MEDICAL LIBRARY

MODERN ABDOMINAL SURGERY

THE BRADSHAW LECTURE

DELIVERED AT THE

ROYAL COLLEGE OF SURGEONS OF ENGLAND

DECEMBER 18TH, 1890

WITH AN APPENDIX ON THE CASTRATION OF WOMEN

BY

SIR T. SPENCER WELLS, BART., F.R.C.S.

SURGEON TO THE QUEEN'S HOUSEHOLD

LANE LIBRARY

LONDON

J. & A. CHURCHILL

11 NEW BURLINGTON STREET

1891

LANE LIBRARY

LANE MEDICAL LIBRARY

M540
W45
1891

TO THE

PRESIDENT, VICE-PRESIDENTS, AND COUNCIL

OF THE

ROYAL COLLEGE OF SURGEONS OF ENGLAND

THIS LECTURE

DELIVERED AND PUBLISHED BY THEIR DESIRE

WITH AN APPENDIX ON

THE CASTRATION OF WOMEN

IS RESPECTFULLY DEDICATED

9158

LANE MEDICAL LIBRARY

MODERN ABDOMINAL SURGERY

MR. PRESIDENT AND GENTLEMEN,—Some who hear me to-day—I fear not many—may remember the condition of Abdominal Surgery in the early part of the Victorian age, forty or fifty years ago. Younger men may easily inform themselves on the subject by referring to the surgical dictionaries and text-books of the period; and all must acknowledge that the contrast with the Abdominal Surgery of our own time—with what we may call Modern Abdominal Surgery—is very remarkable. An occasional operation for strangulated hernia was almost the only piece of abdominal surgical work done in those days. The radical cure of hernia had scarcely begun to attract attention. Astley Cooper had tied the abdominal aorta, and a case of Cæsarean section, when it was heard of, was talked of by the profession and the public as a marvel. A gunshot or other penetrating wound of the abdomen was rarely met with in civil practice; and there, with the occasional formation of an artificial anus, Abdominal Surgery may be said to have reached its boundaries; for neither then nor now have operations on the rectum, nor removal of stone from the bladder until quite recently, been classed as parts of Abdominal Surgery. Take Syme's 'Principles of Surgery' as an example. In the fourth edition, published in 1856 (a book which he says in his preface is the result of thirty years' hospital experience, and has been tried by a long succession of pupils at home and abroad), the surgery of the abdomen is treated in twenty-eight pages, four of which are devoted to wounds; penetrating wounds, he says, being almost certainly fatal. One page given to tapping, twelve to hernia, and a few lines on iliac abscess complete Syme's survey of Abdominal Surgery in 1856. Compare this with the recent

work of an English provincial surgeon, Mr. Greig Smith, surgeon to the Bristol Infirmary. In the second edition, published in 1888, we find forty-six pages on the diagnosis of abdominal tumours, forty on abdominal operations generally and their after-treatment, sixty on ovariotomy, ten on the Fallopian tubes and broad ligaments, thirty on operations on the non-gravid, and sixty on the gravid uterus; 140 on operations on the stomach and intestines, fifty on the kidneys, forty on the liver and gall-bladder, and twelve on the spleen and pancreas. Then we have a few pages on omental and mesenteric tumours and intra-peritoneal cysts. A long chapter on suprapubic cystotomy follows, and then some sixty pages are devoted to wounds and injuries of the hollow and solid viscera, perforating ulcers, purulent collections, and tubercular peritonitis. It is difficult to imagine a more striking contrast than this of abdominal surgery as it was forty years ago and is now, or to contemplate without surprise the vast and rapid advance made in our own day and generation, first in this country and afterwards abroad. In systematic works for students, and books of reference for practitioners, the sections on abdominal surgery are much enlarged. You, Mr. President, were one of the earliest of the leaders in this advance. The successive editions of your own 'Practice of Surgery,' like those of Erichsen's 'Science and Art of Surgery,' confirm all that I have said, and a comparison of 'Heath's Dictionary' with that of Samuel Cooper would do so quite as strongly. We have the well-known works of Treves on 'Intestinal Obstruction' and Morris on the 'Surgery of the Kidneys;' and I am glad to be able to say that the subject has not been neglected in this theatre. Mr. Treves's Hunterian Lectures in 1885, on the Anatomy of the Intestinal Canal and Peritoneum in Man, mark a distinct advance in our knowledge, and improvements in our practice.

In 1878, as Hunterian Professor, I delivered six lectures in this College on the 'Diagnosis and Surgical Treatment of Abdominal Tumours.' Two of those lectures were devoted to the Diagnosis, and four to the Surgical Treatment of such tumours. Three were restricted to the treatment of Ovarian Cysts and Tumours, especially to Ovariotomy, and to the consideration of Antiseptics in Abdominal Surgery. The Surgical Treatment of Uterine Tumours was the subject of the concluding lecture. It was

LANE MEDICAL LIBRARY

based upon the whole of my experience up to that time A short description of Freund's method of entirely removing a cancerous uterus by abdominal section completed the survey that I was able to take of the state of Abdominal Surgery twelve years ago. Ten years later—in 1888—in the Morton Lecture on Cancer, I entered more fully into a description of the mode of extirpating the entire cancerous uterus by the vaginal operation.

Since 1878 the development of Abdominal or Peritoneal Surgery has been wide and rapid. When, in 1885, I published, in a condensed form, a small book on the 'Diagnosis and Surgical Treatment of Abdominal Tumours'—which might be called a fourth edition of that published in 1865 on 'Diseases of the Ovaries'—I had to describe the wide spread of the domain of Abdominal Surgery; to make many additions which naturally arose out of the growth of the subject, and to include the operative treatment of various kinds of tumours—splenic, renal, hepatic, mesenteric—and describe other operations hardly noticed in the earlier editions.

No intelligent student of the history of our science and art can doubt that ovariotomy was the starting-point in the modern advance of Abdominal Surgery. The first extension was to uterine tumours, and to partial and complete extirpation of the uterus. Although I have formerly alluded to these subjects in the Hunterian and Morton Lectures, experience has accumulated so rapidly of late years, that I may perhaps offer for your consideration a few remarks suggested by later modifications of these uterine operations, and upon some other of the more recent developments of Abdominal Surgery. But I will first allude to some practical questions which are still waiting for a decided answer, and which apply to nearly all surgical operations.

Anæsthesia

The first question is, Which is the safest and best anæsthetic? Is it chloroform, or ether, or a combination of the two, or the mixture of alcohol, chloroform, and ether known as the A C E mixture, or bichloride of methylene, or laughing gas, or anything else? Beyond all doubt chloroform is still the usual and favourite anæsthetic. But I was from the first afraid of it.

The only death I ever witnessed of a patient under an anæsthetic was from chloroform. This was in 1848, and the surgeon was Malgaigne. The first year I was at the Samaritan Hospital, in 1854, I amputated a small breast, and the patient very nearly died from the chloroform. For a time we thought she was dead, and it was only after prolonged artificial respiration that she recovered. In several of my earlier cases of ovariotomy I was very uneasy about the effects of the chloroform during the operation, and in more about the vomiting which I thought it set up after operation; and twice, when Clover administered from his bag the vapour diluted with air, I had to stop my work while a patient was resuscitated. Whether chloroform was given by lint and a towel, or by Skinner's mask, or by some inhaler, I was always much more anxious about the anæsthetic than about hæmorrhage or any other operative detail; so that when, in 1867, Dr. Richardson explained his views as to the causes of danger of death from chloroform, and his belief in the greater safety of methylene, which he was then introducing, I was quite prepared to give the newer liquid a fair trial.

To my mind, the result of the first case was most satisfactory, and I have repeatedly made known what my experience of methylene has been. I have been surprised that, in the face of the reports of deaths from chloroform repeated week after week in the newspapers and Medical Journals, we have not yet had to defend one of our brethren against a verdict of manslaughter on the ground that an anæsthetic, well known to be dangerous, had been administered when others, equally efficacious, were known to be safer. I should not at all like to be tried on such an issue, for I fear the defence would be very difficult. I am sorry I cannot enter more fully into this question, but there are others which demand more time than I have at my disposal, and I must be content with explaining that some of the reasons urged against the use of methylene may be completely answered. It can be made by any manufacturing chemist in the manner described in his first paper by Dr. Richardson. Its chemical composition shows it to differ from chloroform only in containing one equivalent less of chlorine.

	Composition	Specific gravity	Boiling-point
Bichloride of Methylene	CH_3Cl_2	1320	128°
Chloroform	CH_3Cl_3	1480	142°

LANE MEDICAL LIBRARY

It is not so easy to procure pure methylene as pure chloroform; for, in spite of the greatest care, a little chloroform, from which methylene is reduced by the action of zinc, occasionally passes over during distillation; but the quantity is too small to be of much consequence. Still I trust the makers will be able to guard against this accidental admixture. Even as now sold, if it is administered sufficiently diluted with air, as it may be from Junker's inhaler by any intelligent student, or even, in cases of emergency, by a nurse, I believe any surgeon who will try it on my recommendation (after more than twenty years' experience of its use in a very large number of operations, some of them exceptionally long and trying), will be freed from much unnecessary anxiety, and may escape censure which some might think to be not quite undeserved. I am sorry I cannot devote more time to this important discussion now; but I have some reason to believe that the whole subject may be treated fully, either in this theatre or in the Examination Hall of the two Colleges, in a full course of Lectures on Anæsthesia by Dr. Richardson, including all the substances described in his synopsis of anæsthetics in the second volume of the 'Asclepiad.'

Let me now pass on and ask you to consider for a few minutes the question of

Drainage,

which, with or without *flushing* of the peritoneal cavity, is one of the more recent additions to the practice of Abdominal Surgery. First introduced and practised by Peaslee in 1855, rather in the treatment of septic peritonitis *after* ovariotomy than as one of the steps of the operation, it has been followed extensively in America, in this country, and in Germany. Some surgeons attach great importance to it, and adopt it almost as a general rule, even where there has been no escape of fluid or oozing of blood into the peritoneal cavity. Koeberlé and Keith first used glass tubes $\frac{1}{4}$ to $\frac{1}{2}$ an inch in diameter. Since then smaller tubes of vulcanite have been preferred, and various modes of syringing, attaching waterproof protectors or sponges, have been used to carry off fluid and to prevent the entrance of septic matter into the cavity. In my own work, I have from the first looked upon drainage as a practice to be avoided if possible, and have only put in a tube when I knew I had not been

able to cleanse the peritoneum thoroughly, or thought that some oozing was likely to go on after the incision was closed, or when, some days later, I had reason to suspect the presence of fluid in the cavity. But I soon began to think that the tube acted as an irritant and led to the formation of the fluid which it served to remove. At first, when I was in doubt, I put in a tube. But very soon, when in doubt, I left it alone. More than once I was sorry I had not used it, but much more often I was glad; and so early as 1876, in a paper read before the Royal Medical and Chirurgical Society on completing 800 cases of ovariotomy, I argued that drainage should only be an exceptional practice. Later, in 1885, after an experience of more than 300 additional cases, I maintained that it should be 'almost entirely discarded,' and said, 'I have not drained one case in which antiseptic precautions have been taken; and, on looking back, I cannot believe that there are more than two or three in which, if a drainage-tube had been used, it would have been useful. The simple explanation is, that the mixture of blood, other fluids, and air, left in the peritoneal cavity, or oozing into it after operation, formerly went through putrefactive changes, and, if not drained off, produced septicæmia, whereas now no putrefaction takes place, and absorption is quite harmless.' ('Abdominal Tumours,' page 61.)

This was six years ago. I can now add that I have only twice *flushed* or washed out the peritoneal cavity with warm water, and in both cases I regretted having done so. When the bladder or intestine has been wounded by gun-shot or otherwise injured, and urine or fæcal matter has escaped into the abdominal cavity; or when pus has escaped from an abscess, flushing may secure more complete cleansing than simple sponging, and so become really valuable; but in a large majority of cases of removal of abdominal tumours, it simply adds to the amount of sponging required at the expense of more or less shock or depressing effect, and leaves the patient no better, perhaps worse, than after careful sponging with soft moist sponges. I have tried several substitutes for sponge—soft linen or cotton handkerchiefs, and absorbent cotton enclosed in muslin—but have not yet found anything that answers so well as sponges. I still preserve them from infective pollution in the manner I have repeatedly described.

LANE MEDICAL LIBRARY

I am well aware that two of my successors at the Samaritan Hospital drain much oftener than I ever did, and often flush; and they regard both practices as valuable additions to Ovariotomy. Their results are excellent, but I must be guided by my own experience, and it is my duty to let others know what I think I have learned. The question is so important, and still so undecided, that I cannot refrain from relating some cases in my practice of this year, where I hesitated as to flushing and draining. They seemed to be exactly the cases where at least drainage was imperatively necessary, yet they recovered admirably well without either flushing or draining.

Last spring a lady from Yorkshire, aged sixty-three, consulted Dr. Matthews Duncan, whose death we have so recently been deploring. He found an abdominal tumour, was doubtful whether it was uterine or ovarian, feared it might be malignant, and advised postponement of any operative treatment. Let me say a word of respect for the memory of Matthews Duncan. I esteemed him highly, as an able, thoroughly conscientious, and careful physician. I can support all that Mr. Doran has said in his interesting memoir (published in the 'American Journal of Obstetrics') of the great good effected by Duncan by 'instilling high principles of professional morality into the minds of his disciples.' We are all grateful for his valuable addition to our Museum of the many beautiful coloured drawings of various diseases classed together as Lupus. I can respect the feeling which led him, in 1857, to publish his paper, 'Is Ovariotomy justifiable?' and I cannot deny that the opinion he then expressed was justified by the facts then on record. His deliberate conclusion was that the defenders of Ovariotomy 'have nothing but flimsy and fallacious arguments' to offer in its support. I frequently met Duncan in friendly consultation, and have not infrequently argued with him that, like some other physicians, his advice tended to postpone surgical operations until neither patient nor surgeon had a fair chance. The physician often thinks the surgeon rash or venturesome, inclined to operate before the necessity for operating is sufficiently proved, and too sceptical of the good effect of expectant or medicinal treatment. The surgeon quite as often believes that if he could operate before the disease has brought the patient into a condition when recovery is doubtful or improbable,

failures in saving life would be fewer, and success more certain and complete.

In the case I now speak of, a delay of three months was the result of the first consultation. Then sudden and rapid increase in the size of the abdomen took place, and the patient again came to London. Dr. Andrew saw her, and, guided by the former history, expressed his fears as to the case being one of peritoneal cancer and ascites. When I saw the lady for the first time I expressed a very confident opinion that there was no evidence of malignant disease; but that there was strong ground for hoping that the free fluid in the peritoneal cavity proceeded from a burst ovarian cyst; that both ovaries were enlarged and the uterus normal. After considerable opposition I was allowed to make an exploratory incision and act upon what I might discover. This I did—removed many pints of ovarian fluid, and both ovaries, after detaching adhesions to the abdominal wall, intestines, and omentum. Then came the question of flushing or drainage. I never saw a case where it appeared to be so necessary. The peritoneum, wherever it could be seen, was soft, red, thickened, covered by loosely adhering pasty layers of lymph, broken-down ovarian structures, and blood-clot. A great deal of sponging left it imperfectly cleansed, and I was thinking of flushing when the patient appeared to be so extremely weak that I was glad to complete the operation as rapidly as possible and get her to bed alive without a drainage-tube. I arranged with Mr. Robert Priestley, who attended to the after-treatment, that if any sign of accumulation of fluid should appear, or much rise of temperature, we might remove a stitch and insert a drainage-tube. But neither of us after the operation had the slightest uneasiness or apprehension. There was neither pain, sickness, nor fever, but uninterrupted recovery. She went into Yorkshire four weeks after the operation, and I saw her in London in October in excellent health.

I had a very similar case last spring—a patient of Mr. Mason, of Ross, in Herefordshire, where the operation had also been put off until rupture of a cyst of the right ovary had occurred, some three weeks before I operated. The abdominal cavity was filled with ovarian fluid, and the peritoneum everywhere had a most alarming aspect. It was covered all over with flakes of lymph, blood-clot, and masses of proliferating papilloma. It

LANE MEDICAL LIBRARY

was quite impossible to cleanse it thoroughly, with or without flushing, and I was content with doing all I could by sponging. Twelve or fifteen years ago I should have put in a drainage-tube, and, if the patient had recovered, have probably attributed the recovery to the drainage. Now, as she recovered admirably well, I believe she recovered partly because I did not drain—that the drainage would have exhausted her and might have led to infective or putrefactive processes.

I was much surprised at such rapid and apparently complete recovery, and was not at all surprised to hear that, after a few months at home, she became ill and the abdomen again enlarged. She came to London, and I saw her on October 30. The abdomen was much distended, and the cicatrix of the operation extremely thin. There was free fluid in the peritoneal cavity, and a well-defined tumour in the left iliac region, which could also be felt by vaginal examination. Although I had made a note of the operation in February that the left ovary was of normal size, but more closely attached to the uterus than usual, I had little doubt that it had enlarged rapidly, and that the fluid in the peritoneal cavity was, as before, ovarian. One could scarcely operate under less favourable conditions, but the patient was in a state of extreme suffering, and it seemed wrong to allow her to die without making some effort to save her. Accordingly, after one day's rest, I operated on November 1. The free peritoneal fluid was clear and light-coloured. There were many pints of it, perhaps thrown off from the surface of the peritoneum, which was everywhere covered by, or converted into, a rough, irregular, rather hard layer of granular papilloma. A very thin-walled cysto-sarcomatous mass formed by the left ovary, enlarged to the size of a small adult head, was then removed, and the pedicle tied in the usual way with silk ligatures. I found, quite loose in the peritoneal cavity, a mass as large as an orange, so smooth that it did not look like what I had just broken up, but as if it had escaped from the cyst some time before. This I took out, and other smaller masses were sponged away. I removed all I could by sponging, but did not either flush or drain.

I need not say how much I feared a rapid collection of fluid secreted by the diseased peritoneum, or how surprised I was that nothing of the kind occurred, and that the patient recovered

as well as after the first operation. The temperature remained almost normal; there was no sickness, very little pain, and when I removed the stitches on the seventh day the wound had healed completely, and, so far as anyone could see, recovery was complete. She left London twenty-six days after operation.[1]

I went to Paris last July to see an American lady, seventy-five years of age, in consultation with Dr. Faure Miller and Dr. Bouilly. All the facts pointed to recent rupture of an old-standing cyst of the right ovary. There was a great deal of free fluid in the peritoneal cavity, and a large solid tumour, certainly not uterine. The necessity for immediate relief was urgent, and with the kind assistance of Dr. Bouilly, on July 25 I made an exploratory incision. A large pailful of turbid fluid escaped from the peritoneal cavity, and then we found an enormous mass of papilloma. It converted the thickened omentum into a large tumour, and covered the peritoneum of the abdomen and pelvis with such a dense layer of sprouting growth that it was quite impossible to ascertain or do anything more. I had scarcely a doubt that drainage would have been a fatal mistake, and closed the wound. I heard that Dr. Bouilly removed the sutures on August 1, and 'found everything healed, and says she could not have done better had she been twenty years of age.' I had a very satisfactory report of her condition a few days ago. There had been no fluid formed since the operation.[2]

It is very curious that simply removing fluid by tapping does not appear to have any such beneficial result as incision, either in cases of tubercular peritonitis, or in cases of papilloma of the peritoneum, whether these have followed bursting of an ovarian cyst or have originated from some other cause.

The fact of the extraordinary recovery of patients whose peritoneum seemed to be in a hopeless condition, and their remaining many years after the incision in good health, was noticed by Mr. Thornton in 1881. I have been greatly surprised at several such cases in my own practice, and Dr. Keith has met with others.

The extremely important practical question of drainage cannot be discussed without some thoughtful consideration of Dr.

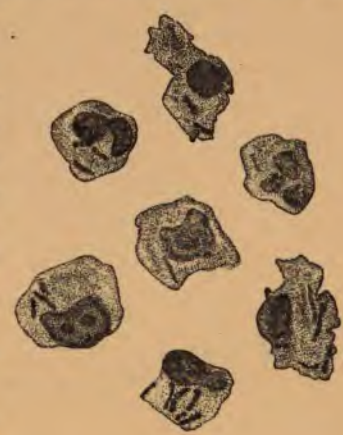
[1] January 1891.—I hear from Mr. Cutfield, who succeeded Mr. Mason, that the patient has gone on well since her return home.

[2] March 1891.—This lady died last month, no fluid having collected.

LANE MEDICAL LIBRARY

Ruffer's recent investigations on the destruction of micro-organisms by amœboid cells—on the phagocytes of the alimentary canal—and on the processes which take place in diphtheritic membrane. Koch's most recent bacteriological researches, and Hankin's work on defensive proteids, also assist in unravelling much that has been, and is still, mysterious. More than the whole of one lecture would be required to treat these subjects at all fully, and I must not now attempt to do more than present a bare sketch or outline of what has been done, rather as encouragement for future research than as conclusions for present guidance.

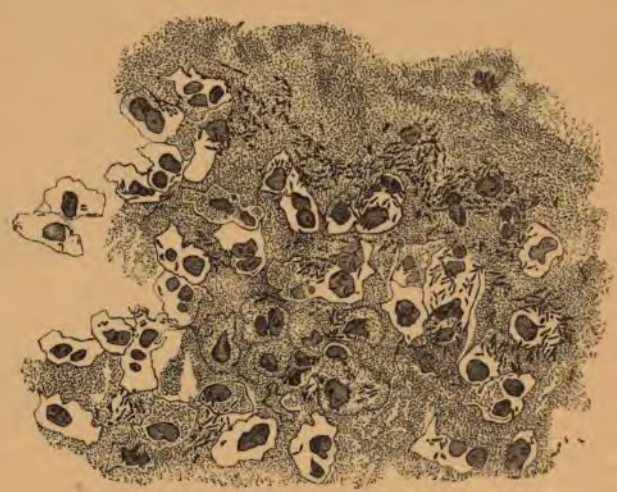
The Phagocyte theory of Metchnikoff, or rather his observations upon the wandering cells or leucocytes by which the animal body protects itself against the attacks of bacteria—taking in the bacilli, digesting them, and so preventing their multiplication and diffusion — explain much that was almost incomprehensible in the relations of bacteria to wounds and to infective diseases. Inflammation is set up in living tissues by the microbes, lymph is effused, and the lymph is soon crowded by phagocytes, which stop the further development of the microbes if they are not present in overwhelming numbers. This battle between the attacking specific microbes and the defending phagocytes has been well demonstrated by Dr. Ruffer in the diphtheritic membrane in man. He has kindly lent me some of his sections, where one or several bacilli may be seen, enclosed in a phagocyte, some of them perfect, some in process of being digested, or disappearing.



We have here a number of preparations which may be seen on the screen showing microbes and phagocytes—the defending cells and the invading enemies. They will be kindly shown by Dr. Woodhead and Mr. Pringle. All I will show now are some of the bacilli of diphtheria and the phagocytes devouring and digesting them. And you will also see some of the very characteristic bacilli of tetanus sent over by M. Pasteur. They

are before you in different stages of development, from the simple rod to the rounded end which shows the sporulation. I may advise all those who are interested in the influence of bacteriology on surgery to wait until after my lecture and see a number of interesting specimens of the infecting agents in a variety of diseases—anthrax, diphtheria, tubercle, tetanus, silk-worm disease, and fowl cholera—which Dr. Woodhead and Mr. Pringle have ready for inspection—the opening up of a revolution in surgical pathology.

In healthy animals, the protecting cells are victorious unless the microbes are extraordinary in numbers or virulence. In



the feeble, the pathogenic organisms, or the soluble poisons they secrete or form, pass into the blood, the spleen, and the liver, and destroy the animal. In the Peyer's patches and tonsils of some animals—of the rabbit, for instance—the struggle, according to Dr. Ruffer, is a physiological process, taking place constantly at every hour of the day.

A new and unexpected support to the phagocyte theory is to be found in Mr. Hankin's recent work on defensive proteids. He has isolated from the spleen and lymphatic glands of various animals a proteid body which has the power of killing bacteria. At the last meeting of the British Association for the Advancement of Science at Leeds, he stated that this defensive proteid,

LANE MEDICAL LIBRARY

though absent from normal blood, could be obtained from that of tebrile animals. If this assertion be accepted as correct, we must believe that, when menaced by a hostile microbe, the organism attempts to protect itself by throwing into the circulation a substance which has bactericidal powers. This view agrees with Mr. Hankin's suggestion that phagocytes can not only kill the microbes they have taken in, but can also (by liberating their contents) exert a bactericidal action.

The question also arises whether animals which are naturally refractory to some special disease may not be so because they have the power of producing some particularly active variety of defensive proteid. If this should prove to be the case, we may hope that (by isolating such substances) remedies, protective or preventive, against various infective diseases, may be discovered and obtained. It seems pretty clear that what Koch and the German pathologists call 'toxalbumen' may be the pathogenic albumose of Hankin.

My excuse for alluding to these investigations while they are still in progress is, that, taken into consideration with the power which the serum of healthy blood possesses of killing bacteria—a power connected probably with the presence of a globulin which is only soluble in dilute solution of common salt—they may explain the antiseptic action of common salt and strengthen the belief that we have in dilute saline solutions a safe and useful fluid for surgical irrigation, preferable to water which has been sterilised by boiling, and possibly to solutions of phenol or perchloride of mercury, either of which may irritate the tissues of the patient or injure the instruments of the surgeon.

Some such reflections as these have been leading me to the conclusion that the use of antiseptics in modern abdominal surgery may be summed up as combining the utmost possible cleanliness of the body, the clothing and the surroundings of the patient, the surgeons, assistants, and nurses; the perfect sterilisation of all instruments by boiling water, as well as of the silk or any material used for ligatures or sutures; and the absolute purity of the sponges or any substitute for them. I long ago asserted that in our daily work we had much grosser causes of danger to guard against than enemies which are invisible without a microscope—that dried clots of blood, or fragments of diseased tissue, imperfectly cleansed from our knives, scissors,

forceps, or needles, may act as directly as vaccine matter. Careful assistants or nurses may not perform this duty of cleansing perfectly, and I think what we are learning from the bacteriologists leads to the conclusion that it will be well after all operations, and probably before them also, to boil all our metallic instruments for a few minutes. I have here a simple contrivance for doing this without much trouble. The credit of the contrivance is due to Mr. Cathcart, of Edinburgh. One great advantage of it is that the instruments are taken out quite dry, and remain free from rust.

A very useful series of experiments by Staff-Surgeon Macpherson is now being carried on at the laboratory of the Conjoint Colleges, in order to test different methods of keeping silk or other material for sutures and ligatures aseptic. Some of the tubes on the table here, containing sterilised meat infusion and pieces of silk or catgut prepared in various methods, have been kept for some weeks at a favourable temperature for incubation. In some no putrefactive or germinating changes can be observed. In others these changes are clearly manifest, and the general conclusion so far is, that solutions of 10 per cent. of carbolic acid in olive oil are useless, and so is wax impregnated with carbolic acid, while a watery solution of corrosive sublimate, 1 in 2,000, preserves silk ligatures aseptic. I mention this in passing as one instance of the useful work already begun in our laboratory.

I used the spray at first hopefully, then operated alternately with and without it, and then gave it up altogether. As I have said, I regard drainage as a rare, exceptional practice. The dressing may consist mainly of sterilised absorbent cotton. Whether by any attenuated inoculation, or the injection of any defensive proteid, a patient can be still further protected from septicæmia or tetanus, or the microbes by which they are caused can be destroyed after the battle between the enemy and the defence has begun, is a question which I trust some worker in our rooms upstairs, or on the Embankment, may not leave to our Continental brethren without a close race, handicapped though we may be by mistaken interference and unwise restriction.

That this hope is about to be realised I gather from experiments as yet scarcely completed made in Koch's Institute by his

LANE MEDICAL LIBRARY

assistant, Dr. Behring, on diphtheria, and on tetanus by Dr. Kitasato, a Japanese. The experiments seem to prove almost certainly that we can prepare one vaccine which confers upon mice, rabbits, and guinea-pigs immunity from tetanus, and another from diphtheria, and which also, after these diseases have begun, will stop further progress and save the creature who would otherwise certainly die. The poisons of tetanus and diphtheria are terribly potent, but admit of accurate dilution to an extent which will either kill an unprotected animal in twenty, forty, or sixty hours, or in four to six days; or will by injection into the peritoneal cavity cure a poisoned animal after tetanic symptoms have begun, or will confer immunity upon these animals, protecting them against the bacilli and their products.

Before I pass on I cannot avoid contrasting Matthews Duncan's conclusion respecting ovariotomy in 1857, a year before my first case, with the present position of the operation. My own completed operations alone amount to 1,230, with 19 additional operations for the second time on the same patient, or 1,249 in all. Several other operators, at home and abroad, can count their cases by the hundred ; and it is certain that the immediate results are fully as satisfactory as those of any serious surgical operation. The subsequent history of the patients for several years after operation has been more fully and accurately obtained and recorded than can be said of any equally important operative work. Let me ask, could anyone have imagined that, in such a small hospital as the Samaritan, in little more than thirty years, there would be performed, as there have been, 1,378 cases of ovariotomy, with a mortality of only 14·13 per cent., or that, in the last four years, in 259 cases, there would be only 12 fatal—a mortality of only 4·40, less than 5 in the 100? It is equally remarkable that in successive series of 100 cases, and in successive periods of five years, from the earliest cases until now, progressive improvement has been as steadily maintained in this hospital as in my own practice.

Uterine Tumours

When I lectured here in 1878 on Uterine Tumours, and gave the history of the whole of my practice up to that time of their removal, or attempted or partial removal, very few

surgeons here or abroad had much experience of the operation. Now, it has become, if not as frequent as ovariotomy, still an operation in which not only some British and American, but German and French, surgeons can tabulate their cases by the hundred. And some important practical questions, still undecided, may be discussed with the help of accumulated facts. Perhaps the most remarkable conclusion of any is that of the most successful of all operators who has had a larger experience of these operations than I or any other surgeon has had—Dr. Keith. His results are magnificent; yet after trial of Apostoli's method of electrical treatment, he wrote:—'So strongly do I now feel on this subject that I would consider myself guilty of a criminal act were I to advise my patient to run the risk of her life—and such a risk—before having given a fair trial to this treatment, even though I were sure that the mortality would not be greater than that which hysterectomy has given me in my private cases—under 4 per cent.'

This is a declaration which must be regarded as phenomenal, coming as it does from a man who is known to observe scrupulously, to think calmly, to reason logically, to decide deliberately, and to act conscientiously. It ought to be, one would imagine, sufficient to check the folly of reckless, indiscriminating laparotomists, and to make their imitators hesitate before risking human life; and it gives matter for grave reflection to all those who have to bear the responsibility of advising and cautioning in such cases.

Dr. Keith tells me that he has not since done more than three hysterectomies (for fibrocystic tumours only) and one castration. This persistent abstention implies his own emphatic condemnation of his former practice, which, as he says, always 'vexed him with anxious doubts and fears,' and at the same time it indicates hopeful confidence in the alternative method of treatment he has adopted. Under the circumstances an attitude of watchful expectancy is what is most fitting; while everyone who has gone through the trial of dealing with the perplexities of giving counsel and acting in these cases, must hope that further evidence will establish the fact that in electricity we shall find a resource which, if it does not supersede the knife, will render the necessity of its use much less frequent.

LANE MEDICAL LIBRARY

A careful and unprejudiced examination of the published record of the cases which Dr. Keith has treated electrically will show that his resolution to withhold his hand is fully justified by the results of his new practice.

Of the 106 cases reported in detail in his book, published August 1889, eighty-five, or four-fifths, were either restored to health, and in some instances enthusiastically grateful for having escaped an operation, or so much relieved of most of their urgent symptoms that, though content with the improvement already experienced, they were anticipating further progress, under a continuance or renewal of the sittings.

Among the remaining twenty-one, three died during or after the treatment from other diseases; very slightly, if at all, more than the present proportion of deaths in the population at large. One patient who had long suffered from exhausting hæmorrhage, when so much relieved that she could go about, died from a fresh attack, brought on by imprudence, and imperfectly treated during Dr. Keith's absence. Some eight or nine of the seventeen other cases were improving after a small number of applications, but discontinued their visits for various private reasons. Two or three had not the patience to persevere, and in four or five instances no satisfactory benefit could be obtained. Only in one case has the tumour entirely disappeared. Generally the patients had to resign themselves to carrying a diminished and less irksome burden, and this, with the freedom from pressure-symptoms and restored health, they made light of.

It is too soon to speak of the durability of these ameliorations. On this point we must turn for information to the practice of Apostoli. An examination of such of his early cases as she was able to find out in a limited time was made this summer by Dr. Felicia Jakubowska. In her thesis, 'Des résultats immédiats et éloignés du traitement électrique des fibrômes utérins,' she states that of thirteen patients whom she discovered, after from four to seven years after the completion of their treatment, ten were in the full enjoyment of the relief given by the electricity. Three complained of some insignificant symptoms, but were in a much better state of health and had more capacity for work than before they were treated. These cases were taken indiscriminately as they could be found after so long a

lapse of time; and if they may be looked upon as a fair representation of the 531 reported at Berlin last July, they testify convincingly on the point of permanence.

The general conclusions we may draw from the observations of those who have made the electrical treatment a subject of intelligent study, are:—

1st. That the almost invariable result of the electrical treatment of fibroma or myoma of the uterus is a marked restoration of the general health.

2nd. That in the great majority of cases it arrests hæmorrhage within a short space of time; that in certain other cases the cessation of bleeding is produced more slowly.

3rd. That the pain is generally relieved, though not so certainly as the hæmorrhage is stopped.

4th. That the tumours mostly undergo some diminution of bulk; that in rare cases they disappear; that when they remain their mobility is greater and they cause less inconvenience; that failure to arrest development is exceptional; that in cystic fibroma it is comparatively useless.

5th. That, as a rule, the retrogressive changes produced remain permanent, and that the health continues good.

6th. That the treatment does not render the patient less fit for subsequent myomectomy if circumstances make it necessary; on the contrary, it rather facilitates the operation, by lessening bulk and loosening adhesions.

Testimony from several quarters seems to have established the fact that the electrical current, when properly applied as directed by Apostoli, has been of utility in large numbers of cases of myoma of the uterus. But its employment is neither easy nor safe in untrained hands. Great diagnostic discrimination is also required before putting the patient under the treatment.

We gather, however, from the best authorities that we may safely recommend it in cases of hypertrophied uterus, of the uterus impacted in the pelvis by peri-uterine deposits, and of interstitial and broad-based tumours.

The process must be expected to be more tedious and uncertain where the tumour is hard and subperitoneal, and there is less probability of good being done when strictly pedunculated; though in some of these cases a change for the better has been produced.

LANE MEDICAL LIBRARY

Little effect can be obtained on the fibro-cystic tumour; and concurrent disease of the uterine appendages is a hindrance to the use of the current. With very large, hard, subperitoneal tumours we can give little hope of more than a partial reduction of size, so as to make them tolerable. But in most cases, and especially in those attended with hæmorrhage, we may advise the use of electricity with the assurance of a cessation of the bleeding, and such a recovery of health as Apostoli calls 'a symptomatic cure.'

There must, however, remain cases where no surgical treatment is required, others where the effect of removing both ovaries has to be carefully considered, and some others where social and other considerations lead to the advisability of early removal of the tumour.

Battey's Operation or Oöphorectomy

In some large uterine tumours, where electricity is not likely to succeed or has failed, menstruation may be stopped by removing the ovaries, and involution of the morbid growth may be reasonably hoped for.

Removal of the ovaries to prematurely stop menstruation was a philosophical suggestion brought forward by Blundell as long ago as 1823. Carried out as it was by Battey, after 1874, restrictedly and with all due precautions, no objection could be made to it. Hegar's adaptation of the operation to cases of uterine fibroids was just, but of limited application. The proposal to extend its use among patients having no tangible disease, but with symptoms difficult to manage, was dangerous. I was far from disposed to put any obstacle in the way of any legitimate operation. I knew, by my ovariotomy experience, how harassing it was to persist, even when right, in the face of prejudiced opposition, and what acute pain may be caused by unfair imputations. But here there was so evidently a perilous temptation in the way of loose professional morality, that, in 1884, I felt bound to express myself thus: 'Though I accept the principle, I am sure that the operation has a very limited application, and is so open to abuse, that its introduction in mental and neurotic cases is only to be thought of after long trials of other tentative measures and the deliberate sanction of

experienced practitioners. Mortal diseases admit of mutilating and desperate remedies. But mutilation for the sake of terminable maladies (which are the fruits of a vicious civilisation or a reckless procreation) is rather a question for the moralist than the surgeon.' It was not without reason that I did this. At the date of the London meeting of the International Medical Congress, Battey, who in the course of several years, and with almost unbounded opportunity of selection, furnished him by a sort of consultative epidemic which followed the exposition of his principles, had only found fifteen cases in which he could see occasion for practising his operation, expressed surprise at the supposed necessity for its frequency in our country. My own experience, and that of many men of repute, forced me to coincide with Battey's reserve and moderation. But an acquaintance with the sectional medical literature, and especially the journalistic publications of the last ten years, leaves the conviction that the contrary propensity is alarming the profession. The constant reproduction of vaunting lists of unsequelled oöphorectomies is an accumulating proof of a mischievous activity, unless it can be explained away by the supposition that some of the authors are deluding themselves into the belief that they have actually done all that they were writing about. The marked attempt to specialise and isolate gynæcological proceedings is an unfavourable manifestation, and creates a fear that in the absence of restraint the profession at large will have to bear up against the rebound of adverse public feeling. When in society and at the clubs it is impossible to avoid sarcastic allusions to the eclipse of the common sense of the consulting-room—when it has become not uncommon to witness in women, far below the stage of matronhood, a flippant familiarity with the jargon of gynæcologists, and a proclivity to yield to some of their vagaries—when at the domestic hearth it is painful to hear reflections upon a suspected relaxation of professional moral integrity—it is beyond a doubt that some pestiferous influence has been at work which justifies the sneers and misgivings of men, and accounts for the newly manifested perversity in women. Some men appear to forget that the mental soundness and purity of our patients is presumed to be as much in our keeping as their bodily health, and that our honour binds us to respect the one as much as to tend the other. We must

LANE MEDICAL LIBRARY

admit, it is true, that the number of such delinquents is as yet very small—but a speck of the evil leaven is capable of entraining followers in many questionable courses and inflicting much moral evil upon society. It is certain that there have been indiscretions; that the operation of oöphorectomy has been injudiciously performed without due explanation of its consequences, and with mistaken prophecies of insanity or early death; that in certain circumstances the bounds generally recognised as those which should limit deliberate and consultative practice have been overstepped; that many young women who have been saved from unnecessary mutilation have afterwards borne children; that recoveries from the operation have been incorrectly counted as cures of the diseased condition, and that all failures have not been recorded. All this has excited a suspicion in the public mind—and more than a suspicion in the mind of the profession—that some of the recent expansions of abdominal surgery have not increased public respect for the profession, and require denunciation. I abstain rigidly from any personalities, and take my stand on general evidence, and the unquestionable existence of an uneasy feeling widely abroad. My early warning was partially unheeded. I now make a sturdy and urgent protest against any abandonment of the true principles of professional conduct, and against the abuse of an operation good in itself and valuable when wisely adopted, and I am sure that the sober-minded and right-hearted majority of our profession will emphasise that protest in no measured terms.

Let me repeat that in properly selected cases of innocent uterine tumours, removal of the ovaries is undoubtedly useful, and has been done in a few cases by me with satisfactory results, and much more frequently by other surgeons. But there are other cases where social and other considerations lead to the advisability of early myomectomy or hysterectomy.

One of the specimens on the table is of historical interest as the first in which a uterine fibroma had been recognised before operation and successfully removed by abdominal section in any British hospital. I operated in June 1871. The patient was then forty-six years of age. She had enjoyed good health until a few months before, and died nineteen years after the operation, of some cardiac and pulmonary disease, without any return of

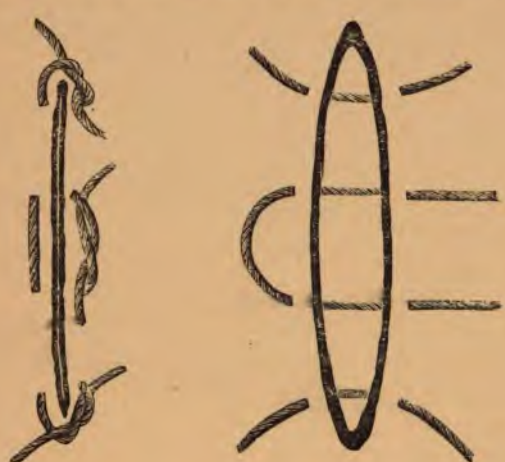
abdominal trouble. The tumour was surrounded by fifty-nine pints of peritoneal fluid, which had produced a large vaginal rectocele. The tumour was separated from the right side and back part of the fundus uteri with an *écraseur*, but it was afterwards necessary to stop bleeding by a large pin and twisted suture, fixing the stump like a clamp outside the abdominal wall. The patient lived until this year, and died of some chest disease.

Such cases are undoubtedly much less frequent than they were only a few years ago, but still they do occur, and the mode of dealing with the pedicle, or the seat of connection with the uterus, becomes the most important of the operative questions. In England the extraperitoneal treatment by pin and *serre-nœud*, by elastic ligature, or the clamp, has so far yielded better results than intraperitoneal ligature. In Germany the reverse is the case, and I cannot help thinking that, as in ovariotomy the clamp at one time led to better results than the ligature, but gave way to intraperitoneal methods, so it will be with myomectomy. But this is a matter for further observation; and improvements in the mode of applying the ligatures will no doubt be suggested.

The principle which I from the first insisted on, of uniting not only *edges* but flat *surfaces* of peritoneum when closing the opening in the abdominal wall in ovariotomy, became of even greater importance in closing the uterine wound in Cæsarean section and the divided edges of the peritoneal coat of the uterus in myomectomy. In my comments on the case where I first closed the uterine opening in Cæsarean section I contended 'that the peritoneal edges of the divided uterine wall should be carefully brought together, like the parietal peritoneum of the abdominal wall, by many sutures, or by uninterrupted suture along the whole extent of the gap.' Sänger carried out the principle more completely by the use of a double row of sutures, and in his earlier operations by the removal of any sub-peritoneal uterine tissue which interfered with the complete apposition of the two peritoneal *surfaces* formed by the inverting of the two peritoneal edges. In his later operations he has been content with bringing *the edges* into accurate contact, and I have recently done this very successfully in myomectomy, only using one row of sutures when this was sufficient to stop bleeding and bring

LANE MEDICAL LIBRARY

the peritoneal *edges* accurately together, but preferring a second row when the edges could be turned inwards and the two serous surfaces fastened together by superficial suture—whether interrupted or uninterrupted mattering very little. The two rough sketches show what I have done very successfully in two recent cases of myomectomy. Last June, assisted by Mr. Doran and Dr. Westland, I removed a very dense fibro-myoma, weighing nine pounds nine ounces, from a lady aged thirty-three. It was attached on the right to the fundus uteri by a pedicle about two inches in length and breadth and one in thickness. This was easily secured and tied by triple ligature as in ovariotomy, but after removing a smaller sessile outgrowth not larger than an apple from the left of the fundus, where the uterine tissue was



very friable, the ligatures cut through it, and there was very free bleeding. Each end of the divided uterine wall was closed by a single suture, and then other sutures were passed, as shown in the cut, which on being tied pressed the bleeding surfaces firmly together. I carried out the same plan last October with Mr. R. Priestley in the case of a lady from New Zealand. A fibro-myoma projected upwards and backwards from the fundus uteri. It was not easy to define exactly the borderline between myoma and fundus, but I transfixed with a long pin, tied an elastic ligature between the pin and the fundus, and cut the tumour away. I had thought of extra-peritoneal treatment of

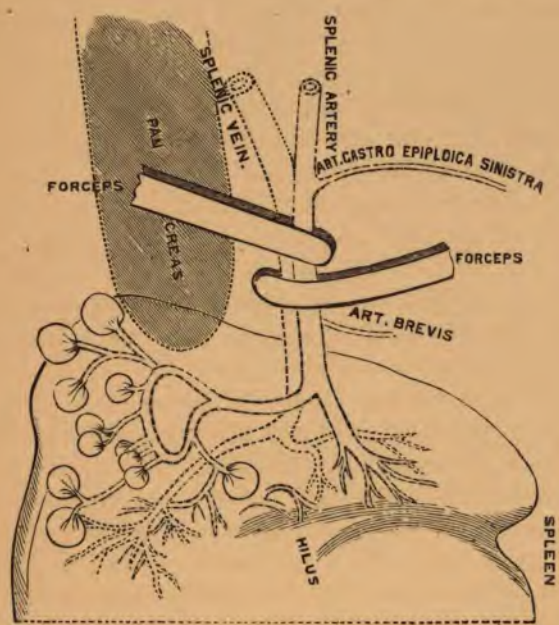
the stump, but there was so much traction on the pin that I removed it and the rubber cord. There was very free bleeding, which I could not stop by ligature or torsion, but did so without difficulty in the manner just described. Both patients recovered without anything worthy of record, much more quickly than they could have done under any mode of extraperitoneal treatment.

Cæsarean Section and Porro's Operation

The mortality of the Cæsarean section since the use of the uterine suture and antiseptics has been so much reduced, especially by Sänger and Leopold, that previous comparisons with Porro's 'utero-ovarian amputation completing Cæsarean section' (as Porro himself defined his operation) must be corrected. Before 1865 Cæsarean section was a very fatal operation; few children were saved and fewer mothers survived. Porro's amputation certainly lowered the mortality, but after 152 cases had been carefully recorded the mortality was 56 per cent. of the mothers. Of the children 96 were living, and it was said with satisfaction that 162 lives had been saved by 152 operations. On the table before you are the uterus, both ovaries, and a uterine fibroma, which weighed nine pounds, which I removed after delivering a living child at full term in May, 1887, from a lady, aged 37. She and the child are still quite well. Mr. Scattergood, of Leeds, wrote to me last week saying: 'She does not suffer the slightest inconvenience as the result of the operation, indeed feels much better now than she did some years ago. Her boy is also very well.' This case, and the mortality of the Cæsarean section up to that time, led me to a conclusion favourable to Porro; but more recent statistics of the Cæsarean section in Germany teach us to prefer the more conservative operation in cases where there is no uterine tumour. If there be any considerable tumour it would almost always be preferable to remove it with the uterus, but in simpler cases to be content with Cæsarean section as perfected by Sänger and Leopold, which has recently given almost as good results as average ovariotomy—the latest returns of the work of a few experienced operators giving a mortality of only 5 per cent. Surely this is a result of which modern Abdominal Surgery may be justly proud.

LANE MEDICAL LIBRARY

In order of time, the spleen was the first of the abdominal viscera which was dealt with like an ovarian tumour. But I have little to add to what I have before published on SPLENECTOMY except that the operation is more often done, and that the fears raised by recent physiological views as to the function of the large splenic cells found to contain many half-digested red-blood corpuscles, have not been justified in the two successful cases which I have been able to record. Both patients remain in perfect health, and there is nothing in their blood to show that



they have been without a spleen five and three years respectively. The only practical remark I have to offer is, that in a very large proportion of published cases primary hæmorrhage has been the cause of death, and I think I have provided a safeguard against this danger by the use of pressure forceps in the way shown in the diagram. The blades of the forceps may be protected by a thin sheath of india-rubber. It is possible that an elastic ligature might serve the same purpose as forceps, but it would not be so easy to apply, and there might be danger of slipping.

Liver and Gall Bladder

With regard to the liver and gall bladder, I can only say now that, although many successful cases are on record of removal of gall stones and subsequent closure of the gall bladder by sutures, as well as of fixing it to the abdominal wall and forming a fistulous opening, the impression I had formed and made known five years ago, that excision of the gall bladder—or cholecystectomy—is a better practice, has been strengthened; and I can almost foresee that the general rule in future will be to expose the gall bladder, empty it by a syringe, raise the liver, protect the stomach and intestines by sponges, tie the cystic duct with two ligatures, divide it between them, separate the gall bladder from the liver by knife or scissors, and then close the abdominal wound.

Operative Surgery of the Kidney

Perhaps no other department of Abdominal Surgery has been so rapidly developed during the last few years as that of the kidney.

Nephrolithotomy and nephrectomy may now be regarded as remarkably successful operations. I have nothing to add to what I have before published, but I may refer to a most gratifying case about to be discussed at the Royal Medical and Chirurgical Society, where Mr. Clement Lucas, in July 1885, removed the right kidney from a woman thirty-seven years of age on account of long-standing hæmaturia. For some three months she was free from pain and bleeding; then a sudden attack of pain in the left loin was followed by complete suppression of urine, and death from uræmic coma was imminent, when Mr. Lucas cut down on the remaining kidney and removed a stone which acted as a ball-valve at the top of the ureter. The woman was rescued from imminent death, and has for the last five years enjoyed good health. As the lumbar incision was adopted in this case, some might hardly consider it abdominal surgery. But so large a proportion of nephrectomies are done by abdominal incisions, that I may be excused for mentioning a case of which the operator might well be proud, and congratulate him upon his

LANE MEDICAL LIBRARY

delay in publication until the patient's recovery has been well established.

ENTERECTOMY

What would Astley Cooper or Abernethy, Lawrence, Syme, or Brodie have said if a proposal had been made to cut away several inches of intestine, and, after uniting the divided edges of the upper and lower openings together, to return the intestines, and close the opening made in the abdominal wall? They all regarded a mere wound of intestine as almost certainly fatal, and thought life could only be saved by forming an artificial anus. How amazed any of these great surgeons, or any of their contemporaries, would be if they could see the specimen I now show you, which has been kindly lent me from the museum of St. Thomas's Hospital! A boy, aged fourteen, was kicked by a horse one evening, and taken to St. Thomas's late at night. Next morning Mr. Croft, suspecting ruptured intestine and acute peritonitis, at once made an exploratory incision. He found fæcal matter in the peritoneal cavity, and a part of the ileum bruised and ruptured. The piece you now see was separated from its mesenteric attachment and cut away. Makins's forceps, which are here, proved very useful in keeping the canal closed before the intestine was divided, and while the sutures were being passed. The mesenteric wound was closed by sutures, the cut ends of the intestine carefully adjusted, and fastened together by Lembert's sutures. About forty sutures were left in. The peritoneal cavity was carefully cleansed by warm boracic solution. No drain was used. The external wound was closed by silk sutures. Recovery was uninterrupted, and the boy was shown at the Clinical Society nearly a year afterwards in good health. The piece of intestine seen here inverted measures nearly three inches at the free border, but only about half an inch at the mesenteric border. The rupture is only about half an inch in diameter, but it had permitted free escape of fæcal matter into the peritoneal cavity; and if ever a life has been saved by a surgeon, this boy's was by Mr. Croft, and so will be many more if the practice he adopted is imitated.

Lembert's suture was employed in this and in other successful cases; but I cannot help thinking that Mr. Stanmore Bishop's is better. He has described and illustrated it so fully in his

paper published in the *Medico-Chirurgical Transactions*, that I need not now do more than point to the interesting preparations before you to show what accurate and complete union follows its application. The fine needles and silk Mr. Bishop uses are here, and his needle-holder. I must, however, add a word of advice to those who may think of using them—that a good deal of practice in the study is necessary to enable any one to use them with precision and at all rapidly.

My distinguished American friend Dr. Senn, Professor of Surgery at Chicago, has made some valuable additions to the practice of enterectomy by teaching the use of absorbable plates of decalcified bone in facilitating the approximation and union of the two openings to restore the continuity of the intestinal canal. I have some of his plates here, preserved in an antiseptic solution as they are kept for use. They come away with the fæces about a week after the operation. They assist very much in securing complete apposition of the two serous surfaces, and Dr. Senn's method of slightly scarifying the two surfaces with the point of a needle doubtless adds to the rapidity and firmness of their adhesion. Similar scarification might be of use in the uterine suture, and I shall certainly give it a trial.

I can strongly advise all operating surgeons to study carefully Dr. Senn's important memoirs on 'Resection of the Cæcum for Carcinoma,' and on 'The Diagnosis and Operative Treatment of Gunshot Wounds of the Stomach and Intestines.' They abound in original suggestions and in records of experimental and operative work. But I cannot do more now than allude to two cases of intraperitoneal rupture of the bladder which are brilliant examples of modern Abdominal Surgery.

Intraperitoneal rupture of the bladder has been almost always fatal, but Sir William MacCormac had two cases four years ago where he exposed the bladder by abdominal section, carefully closed the rent by silk sutures, washed out the peritoneal cavity by warm boric solution, closed the external wound, and perfect recovery was the result. These are the first of such cases on record. Careful diagnosis and early skilful operation earned their just reward. Silk sutures were passed about a quarter of an inch apart through the serous and muscular coats only, twice on each side of the opening, so that when they were tied the mucous membrane was inverted, and two serous surfaces were

LANE MEDICAL LIBRARY

fastened together on the principle I have spoken of before. The peritoneal cavity was thoroughly cleansed by irrigation, a glass drainage-tube introduced, and a catheter fixed in the urethra. These were removed after three days, and in three weeks the man was as well as before the accident.

In a second and similar case the same course was adopted, with the exception of drainage, and recovery was even more rapid than in the first case. Accurate closure of the wound in the bladder by sero-muscular sutures and thorough cleansing of the peritoneal cavity were doubtless the chief points in these two operations. As Sir William MacCormac urges in his very able report of these cases,[1] in cases of intraperitoneal ruptured bladder there is need for 'earlier interference and bolder practice. The whole history of Abdominal Surgery points in this direction.'

Here I am compelled by the hour to close this very hasty and imperfect sketch of what we, the surgeons of the present, have done and are doing, and how we do it. And for our younger Fellows and Members—for the surgeons of the future—may we not be confident that, with the energetic spirit of inquiry now awakened, with an enlightened determination to apply all the resources of modern scientific discovery to the perfecting of our art, with a conscientious aim at making it as truly conservative as is compatible with usefulness and progress, and with honourable feeling and highly cultivated judgment directing hands delicately and expressly trained, we may augur for the surgeons of the coming time an influence supremely beneficent for mankind, and promise to its devotees the dignity and distinction justly earned by their life-giving and health-preserving work?

[1] *Lancet*, December 11, 1886.

APPENDIX

At the conclusion of the lecture a number of specimens from M. Pasteur, and some prepared by Dr. Ruffer and Mr. Pringle, were exhibited by Dr. Woodhead, highly magnified, and thrown by an oxy-hydrogen lantern upon a large screen. After showing the mycoderms of vinegar and wine, the following were the principal specimens described by Dr. Woodhead :—

× 20,000	Fungi and bacteria cultivations. The bacillus of pneumonia (Friedländer). Macro- and microscopic appearances. Tubercle bacilli in the walls of a blood vessel. Blood containing (1) spirilla of relapsing fever. ,, (2) organisms of fowl cholera. ,, (3) ,, of septicæmia. ,, (4) anthrax bacilli. Cultures of anthrax bacilli. Leptothrix forms.
× 30 000	Photo-micrographs prepared by Mr. Andrew Pringle: Tetanus bacilli; long threads, drumstick form, spores, &c. Diphtheria bacilli, two forms. Tubercle bacilli, with and without spores. Anthrax bacilli in mesenteric vessels of mouse.
× 25,000	Drawings by Dr. Beadles, made from a number of Dr. M. A. Ruffer's specimens, of microphages and macrophages from adenoid tissue of the intestine and from tubercular spleens. In the microphages, bacilli, red blood corpuscles and pigment could be seen in various stages of degeneration, whilst these microphages, also in various stages of degeneration, were in turn seen contained within the protoplasm of the macrophages.

LANE MEDICAL LIBRARY

CASTRATION OF WOMEN

The following article, which I contributed to the 'American Journal of the Medical Sciences,' appeared in the new series, vol. xcii. It was published in 1886 with articles on the same subject by Hegar and Battey. It is now reprinted in consequence of continued and apparently extending abuse of the unnecessary mutilation of young women :—

Castration in Mental and Nervous Diseases

Castration, in the wide sense of the word, both of the male and female, has an import which attaches to no other surgical operation. It not only puts in jeopardy the life of the individual on whom it is performed, but it involves the certainty of the non-production of the whole series of beings that might result from man's obedience to the first command of his Creator, 'Be fruitful and multiply.' Its potential fatality, as regards the subject of it, sinks into insignificance when compared with the absolute extinguishment of one line of the species. Hence its gravity among moralists, and the severity with which it has been visited by legislators. Death and penal servitude for life, without remission, are the punishments set by some codes upon the crime of unjustifiable castration ; which term is made to include all mutilations that may put an end to the virility or fecundity of the victim.

The duties of a surgeon often lead him near the confines of what is illegal. With the deceptive plausibilities of patients, their indefinite notions of morality, and his own propensity to action, induced by sympathy with distress, the balance of prudence is sometimes apt to waver in uncertain hands. One is thus brought to see how indispensable strict ethical training is as the complement of technical education, how needed is a check upon the impulses of acquired or reputed manual dexterity, how, in reference to laparotomy operations in general, the profession should be made to feel that it is acting under the restrictive influence of the opinions and decisions of its wisest and most vigilant leaders, and how urgent it is that those leaders should rise to the level of their dignities and responsibilities.

The advances made in abdominal surgery within the last five-and-forty years are, to those who have passed a long life in practice, who have been sharers in the work done, and who have found time to look about them and note what their contemporaries have undertaken, something astounding. Men of to-day, launched upon the full flood, have little idea of how the rush of accumulated experience which

carries them along has been made up; or of the struggles and perplexities those who were the first to move had in paddling and steering through the swamps of difficulties, and in face of the blasts of prejudice. Progress was slow and there was time for reflection. It is not to be wondered at that such reflection sometimes caused hesitation and yielding before obstacles. Cooper, Lawrence, Green, Brodie were great surgeons. They did and taught surgery that was the boast and honour of their day. But they were orthodox men; they reverenced authority, and were authorities themselves. A pause for inquiry as to what was going on, and where it would lead to, was, at their suggestion, not dishonourable and did good service. It helped to enlighten and liberalize them, and it moderated the contagious impetuosity of the new adventurers. It would not be unwise if we made a halt now, and took account of our position in regard to some points that are pressing and open to question. We should be among the last to stand in the way of clear-sighted attempts to move onward, but wish always to be guided, and to see others guide themselves, with caution and by the light of reason.

This is not the place to go into the history of ovariotomy. But it may be well to recall some points in it connected with the subject before us. In its early days the operation was looked upon as a personal enterprise, to be taken up every now and then by men of the Livingstone, Brunel, or Columbus type, who were either vaguely enthusiastic, stimulated by an impulse for out-of-the-way performances, or so wise and so far ahead of their times that few could understand them; and fewer still were inclined to follow an example which, though it might meet with a certain amount of success, excited astonishment and suspicion more than admiration, and brought little other reward than the consciousness of having made honest efforts to rescue suffering women from impending death. Then came a time when things were different. The profession took up the matter seriously and practically. It was still an assault upon unsolved problems. But the contention ended in the opening up and annexation of the 'whole domain of peritoneal surgery.' It was like the discovery of the Californian diggings or the African diamond fields. The way was cleared for all prospectors, and the benefits spread world-wide. Between the years 1840 and 1865 the excision of ovarian tumours came to be accepted as a sound piece of surgery, as admissible among the arts '*quæ prosunt omnibus*' as lithotomy, and more promising in its results than most other capital operations. It became naturalized in England, was taught in the schools, and soon threw out an abounding crop of controversial and didactic literature.

LANE MEDICAL LIBRARY

But there was a reverse to this bright side of things. Inexperience, rashness, maladroitness threatened danger. I saw then for ovariotomy, as we now see for laparatomy, a disposition to wild, irreflective meddling. In my book, published in 1865, I seem to have anticipated something similar to the present folly, though not nearly to the extent it has now gone. Here is what I say in the preface: 'I cannot send forth this volume without a word of caution. A discovery which has triumphed over opposition of all kinds, honest and scientific, prejudiced and ignorant, may still be ruined by the support of rash, inconsistent, thoughtless partisans, whose failures do not reflect so much discredit on themselves as on the operation they have badly performed in unsuitable cases. Indications are not wanting that ovariotomy has entered on this phase of progress, and there is reason to fear that judicious men may be influenced by the outcry of the foolish, and that a triumph of British surgery which has been won by such great labour and care may be arrested before it is complete—may even be converted into temporary defeat—by the indiscriminate support of zealous but injudicious advocates.' We are not wrong in assuming that such warnings—for mine did not stand alone—were not useless. More discrimination was shown in the selection of cases, diagnosis was more scrutinizing, operators fitted themselves better for the work by reading and observation, and both unsuccessful operations and incompleted attempts became less frequent.

But ovariotomy was not only viable and strong. It had in it an unsurmised power of fecundity which we can now estimate by the many prefixes to its terminal dissyllable. Before the present reign, the art of midwifery was somewhat in the shade. The needs of royal maternity gave it the prestige which was wanting to its utility. Knightly spurs and hereditary rank were won in the palace chambers. The title was a little incongruous with the old familiar term 'midwife.' The synonymous 'accoucheur' came into vogue, but it did not accommodate itself to the linguistic requirements of professors and writers, and was objectionable as being imperfectly euphemistic and too directly artistic. Something with a more scientific twang was the desideratum, and 'obstetrician' seemed for a while to be all that could be hoped for by those who were ambitious of showing that they could propound doctrines as well as handle forceps. Yet women, whether in the hands of Shandean Slops or Caxtonian Squills, are not always as they should be, either before or after the great obstetrical event. They have maladies before, meet with accidents at the time, and often suffer consequences which require surgical skill for their cure. Some men could split a perineum, but it was not everyone who could put it right again, and obstet-

ricians soon began to foster a competition for secondary specialties, to indulge in the creation of Greek compounds, and were not long in fitting themselves with the distinguishing appellative of gynæcologists. Gynæcological societies were the inevitable complement of this sectarianism, and in their proceedings we find all their speculations and manipulations so put in evidence that we can leisurely watch and criticise them in their budding, blooming, and fruition.

The growth of specialization in medical science is at the same time a benefit and a peril. It is well to know that men of broad culture, capable of linking each small and special area of research to, and viewing it in the light of the vaster realm in which it is an essential and inalienable factor, devote themselves to particular investigations. And if special gatherings were schools of instruction by masters, instead of theatres, with rapidly recurring exhibitions of curiosities and recitals of marvels, which must be made forthcoming by some means at the appointed times, we could appreciate them. There is a wide difference between one man acting and ruling as a specialist, and a miscellaneous lot of men each pushing to the front and grouping themselves together as a society of specialists. The master of a pack of hounds must be a specialist in his way, but it would be absurd to suppose that every rider in the field would be able to take his place, or any other than that of a follower. But herein is the danger with groups of gynæcologists. It would not answer for all to run on the same track. To be anything, each must hunt up his own little therapeutical quarry and keep to it. Groping among details is an absorbing and paralyzing occupation, and soon the curve of a pessary or the lining of a speculum fills the field of vision, and great principles are lost sight of. With one such idea kept steadily running in the same groove, a man may quickly find his way down to the lowest level of routine womb-scaffolding or singeing. And so it is that while out of the multitude of gynæcologists a few inspired with Hunter's idea, 'all discord, harmony not understood,' are spending their lives in the higher regions of speculative inquiry, thinking, developing ideas, multiplying original principles, and applying them to the pathological phenomena peculiar to the female sex—with a special view to the elucidation of their causes, mode of origin, and prevention—the rest are dispersing themselves over the lower ground of therapeutical action. Disease exists, the how and the why concern them not. Why search into the inscrutable? If the faults and follies of mankind engender excisable matter, their business is with the palpable, and to get rid of it. So myomotomy follows ovariotomy, Porro supplants the Cæsarean, Battey breaks through his difficulties with 'normal oöphorectomy,' and the *Moutons de Panurge* are soon

LANE MEDICAL LIBRARY

seen flocking over his gap. It is with this gregarious castration that we have to deal.

It is about fourteen years since the operation of normal ovariotomy, as Battey called it, was brought practically before the profession. It is now impossible to ascertain how often, or by how many surgeons, it has been done. But the most recent bibliography of the subject extends to about five octavo pages, and comprises the names of more than one hundred and fifty writers. The greater part of these publications consists of the accounts of cases and the discussion of points of practice. Some of the matter is critical, much of it defensive and exculpatory. So that it has both a history and a literature.

The operation itself is in no sense a novelty. It has been practised in all times, though not for surgical reasons. In the last century, about the same time, L'Aumonier and Pott did it remedially; the first, without premeditation in the course of opening an abscess in the iliac region. Pott, however, intentionally took away two ovaries which formed inguinal hernias. Though Blundell never did the operation, it would be unjust to omit all reference to his so often cited prophetic suggestion, made before the Medico-Chirurgical Society in 1823. Lassus, in 1858, and two German writers, mention some other cases similar to that of Pott. In 1869, Koeberlé, while putting a ligature on the broad ligament for the relief of a retroverted uterus, took away an ovary which embarrassed his proceedings. Esmarch, too, a little while later, removed both ovaries from a young woman who had congenital atrophy of the vagina. The monthly sufferings were so great that each time her contortions forced the ovaries through the inguinal openings. They were the point of departure of all the neuralgic radiations, and Esmarch cut them away as a dentist would draw a troublesome tooth, without theorising about the suppression of function and anticipated climacteric. He simply did a perfect castration and left the titular honours of normal ovariotomy, or oöphorectomy, as it was soon after called, to Battey and to Hegar, who began to use the phrase 'castration of women.'

These two surgeons, in July and August 1872, within twenty days of each other, did the operation of castration by the abdominal section. One was at Fribourg, the other at Rome, in Georgia. Of course, they knew nothing of each other's reasonings and actions. Both their patients were in much the same condition, with menstrual neuralgia. Hegar's patient died of septicæmia, and he held his hand for four long years. Battey had a better chance. His patient got well and was quit of her troubles. Elated by the success of his operation, he hastened to make known what he had done by a notice

in the 'Atlanta Medical and Surgical Journal' the September following, and six months afterwards gave all the details of his performance, and defended his theory, before the Medical Society of Georgia. Both men had the same idea, or nearly so. Esmarch's object was nothing more than the removal of the organs that were the seat or the cause of pain in his patient. It was a question of function and constitutional effects with the two pathologists. Hegar, from the first, explicitly stated that what he hoped to do by castration was to bring about a suppression of the ovarian function, a cessation of the periodical and intermittent influence of the ovaries on the whole system, and an early declaration of the menopause. Whether Battey went as far and was as clear in his conception of the import of the proposal has been doubted. He had taken a long time—six years—to deliberate and to consult about it, and met with nothing but indifference and disapproval. His arguments brought no one over to side with him. It was said that his idea was merely that of calming down pelvic disturbance, without calculating upon further consequences ; but he distinctly mentions that he expected a 'change of life' to follow the castration. If he did not argue out the matter, and expound his doctrine, with German elaborateness, we may at least admit that he knew what he was about and had considered what was likely to happen. At any rate, he thought out his subject carefully, acted independently, and was the first known to do so. He was prudent, waited patiently, and watched assiduously for a fair occasion to put his proposal to the test, and at last succeeded in showing it to be not only logical and rational, but effectual in practice. If his arguments had made few converts to his opinions, his practice was soon adopted by followers, and he is entitled to the credit of originality.

Up to this time we had heard only of menstrual difficulties as a motive for oöphorectomy. The ovaries were treated as confirmed and convicted culprits. Battey seems to have spent as much as six years in reformatory efforts with his first case. It was only when all looked utterly hopeless and incorrigible that the extreme penalty was resolved on and carried out. It was a sorry alternative, and not one to boast of. When a surgeon is obliged not only to put on the black cap but to become the executioner, the only redeeming point in the business is the skill he may display in carrying out the sentence. The blot is the necessity for such a measure. As society is wanting in reference to crime, so the profession is wanting in reference to disease. There is too much law, and not enough gospel ; too much doctoring, and not enough philosophic pathology. It might be otherwise. With better principles and training we should see less of crime and its consequences. With a

LANE MEDICAL LIBRARY

keener estimate of the higher functions of medicine, more thinking, more research and systematic dialectical reasoning, there would be more defiance of disease, more life-giving power, and less of surgery. But we are not yet at this point, and dysmenorrhœal invalids may in the meantime be thankful that there are still some oöphorectomists as considerate and merciful as Battey.

The year 1872 was remarkable in that, within a month of each other, three oöphorectomies were done by three different surgeons, in three different countries, without either of the three being aware of what the others were about. We have noticed the operations of Battey and Hegar. On August 1, a few days after Hegar's operation, Tait, of Birmingham, is reported to have also removed two ovaries from a woman who was sinking from irrepressible hæmorrhages due to uterine enlargement or tumour. She recovered and was better two years afterwards. In the course of the next year it is also recorded that he did three more similar operations. In two of the cases he took away only one ovary. That was imperfect castration—not the complete operation of Hegar. The want of appreciation of Hegar's motive for the operation is evident. Of a large proportion of Battey's early operations, the same defect is also apparent in the tables. It would seem that he too had failed, from some unexplained reason, in fidelity to the principle upon which all rests.

Gillmore and Pallen, Americans, did the bilateral operation in December 1872, with success. In the next four years many other names came upon the lists, as Peaslee, Trenholme, Goodell, Sims, Thomas. These for the most part followed Battey's example, and at the beginning operated on patients with ovarian neuralgia and general nervous symptoms, or with some congenital imperfections interfering with menstruation.

Then, in 1876, Trenholme did as Hegar and Tait had done, and used the operation for hæmorrhage, depending upon uterine fibroids. Later on, operators found all sorts of pretexts for operating. Too many of their operations were imperfect. Of eleven operations done by Sims, between February 1875 and August 1881, six were unilateral. Nor was the mode of operating determined; some choosing to do the removal by the vagina, others by the abdominal section. At length, in 1881, Battey, deploring the abuse of his operation, when at the International Congress held in London, felt himself constrained to renew his protest, and record the fact that up to that date he had met with only fifteen cases in which he could see reason for carrying out the practice.

It was not until 1876 that Hegar, in Germany, recommenced operating. In August of that year he removed the ovaries from

two women who had hæmorrhagic fibroids. Both were saved and benefited. Kaltenbach then, in the following October, operated under the same conditions, but his patient died. Nussbaum had a success the same year. Between that time and 1879, Martin, Freund, Fehling, and Tauffer castrated several women, mostly for fibroids that could not be otherwise treated. The idea in Germany was, that, as Hegar pointed out, this was the most legitimate use of the operation. Tauffer and Langenbuch thought the practice might be extended, and operated in some instances in which the dysmenorrhœa and other symptoms were manifestly of ovarian origin. But upon the whole the influence of Hegar's doctrines prevailed, and no such operative outburst as took place in America was seen in Germany. The reports of Wiedow, at Fribourg and Copenhagen, show how important have been the amount and success of oöphorectomy in uterine cases among the Germans. In Switzerland, Bischoff, Bircher, and Müller took up Battey's notions and practice without hesitation. Since 1880 the operation has been accepted in Spain and Italy.

It is not the first time it has been said that there are some things which the French manage better than we do. And certainly in some gynæcological matters it has been so. The logical faculty is strong in Frenchmen. It would almost seem that their women are not to the same extent as others liable to pelvic troubles. The subject of oöphorectomy had become repulsive from the fanaticism in America, and perplexing from some of the English revelations. Battleyism was on its trial and undergoing a process of classification. There was time to wait. *Fiat experimentum*—they could be content for a time with observations and reports. So things went on till 1880, when, convinced of the rightness of the principle, and that the operation in the hands of judicious men was being turned to useful account, Professor Duplay operated in a case of fibroma, taking away both ovaries. His second operation was in 1884. Péan began in 1882, and has altogether reported eight operations. Three of his cases had congenital absence of uterus and vagina. The five others were neuralgic. Though, in general, abdominal sections are not popular among French surgeons, they are now carefully choosing their cases for oöphorectomy. The usages of French surgical practice render an epidemic of laparotomy very unlikely.

The operation was not at first well received in England. Tait, of Birmingham, has been identified with it from the beginning. He has modified it and extended its application. Many others have followed in his steps ; some have tried to outstrip him. The ovaries and all their appendages now go the same way ; and the meshes of the physical, mental, and moral network of reasons why the operation should be done are so closely woven that few cases of a per-

LANE MEDICAL LIBRARY

plexing nature, that can anyhow be connected with the generative organs or functions, have a chance of escaping laparotomy or something more. The present state of oöphorectomy in England proves how fully justified I was in writing as I did in 1882, and shows how little my warning has been attended to. I said then, and I have not a word to retract now : 'Though I accept the principle, I see that the operation has a very limited application, and is so open to abuse that its introduction in mental and neurotic cases is only to be thought of after long trials of other tentative measures, and the deliberate sanction of experienced practitioners. . . . Except in cases where bleeding fibroids may call for the extirpation of the healthy ovaries, we might at least require some evidence of the ovaries being diseased before consenting to their extirpation in the hope of curing any of those vague nervous disorders to which women are so subject, which are often dispelled by moral treatment or social changes, often benefited by measures which can have but little effect except on the imagination, often return after cure in any way, and leave the hopeless beings the prey of unscrupulous or illogically enthusiastic experimenters.'

The danger is now increasing as the operation is becoming world-wide. The oöphorectomists of civilization touch hands with the aboriginal spayers of New Zealand. The ovary is, in fact, the nucleus of gynæcological science and the source of gynæcological practice. Its products give occupation to the obstetrical art. The disturbances it sets up in the system at large are the prairie grounds of gynæcological proletarians. The morbid structural changes, displacements, and accidents of it and its appendages are the arena of its operators. Wonderful, indeed, is woman's hydra-like tolerance of sections and mutilations under their hands !

But the ovary is more than this. Reproduction is the dominant function of woman's life, and all her other living actions are but contributory. Physiologically and pathologically, the generative organs have peculiarities of which the surgeon must take account. They are not vital organs. The purpose they serve is more in relation with the species than the individual. Their life of functional activity is not of the same extent as that of the being of which they form part. The bodily health is none the worse, perhaps better, during the time of their quiescence. Disease is exceptional in them before puberty. The time of their activity is the time when they are most often attacked by disease. The origin of diseases in them which prove fatal after the change of life may almost always be dated back to the middle period. They affect both the physical and mental powers and qualities during the time they are in development and full play ; not much before or after.

The tubes, womb, and vagina are accessories more or less essential. The ovary may exist without them ; but it is seldom that the tubes, womb, and vagina are fully formed in the absence of ovaries. There may be an evolution of ova when the appendages are no longer there or are even cancerous. When the ovaries are diseased or removed function stops, and the other parts shrink up. None of the subordinate parts of the passages can do what the ovary does, but the tubes may supplant the uterus as the seat of gestation, and the uterus, except during pregnancy, acts chiefly as a section of the tube. In infancy and old age its cavity is contracted and approaches nearer the form of the tube. There is a fact, too, which should never be neglected by the surgeon in coming to a decision about the operation of excision, especially in cases where the indications are not positive—to wit, that the ovaries are not such isolated organs, nor so invariable in their number, as is generally supposed. There, as elsewhere, is shown the tendency to revert to lower types of development ; and patches of ova-bearing tissue may exist in adjacent peritoneal folds. These may be beyond the ligature of the pedicle ; and, if left, keep up the sexual impressions and power of periodical ovulation. Liégois mentions this subject in his 'Physiologie appliquée à la Médecine et à la Chirurgie,' of the date 1869. Waldeyer found a piece of ovarian tissue in the pedicle of a tumour after having, as he thought, finished an ovariotomy. Weigel counted, out of six hundred women examined, no less than twenty-three with more than the ordinary two ovaries. Instances of regular menstruation, and even of pregnancy, after double ovariotomy, have been met with sufficiently often to show how easy it is for the expectations of a surgeon to be thwarted by a condition which he can neither foretell nor determine exactly at the time of his operation.

The fact that women remain for some five-and-thirty or forty years with a certain part of their organization in a state of periodical excitement, ready for the special act of childbearing, would lead *a priori* to the supposition that the whole of that organization must in some way or other show the effects of it. And such is the case. At an early age females are more tenacious of life, and the mortality of boys is greater than that of girls. During the procreative period the excess is on the side of the females, independently of the mishaps of childbirth. After the climacteric, male deaths are in greater proportion. The disproportion in the number of the two sexes in the living population would be still more marked than it is, were it not for the casualties and diseases connected with maternity. There is a constitutional difference between the sexes at all times ; but during the time when women

LANE MEDICAL LIBRARY

are essentially females, they have more sensibility and excitability, a more lax and delicate fibre, with a strong tendency to nervous affections and diseases of an asthenic character. The development of puberty produces one set of disorders, usually anæmic ; ovulation, parturition, and lactation give rise to another class ; while nervous anomalies and degenerations of tissues mark the decline of the functions and the torpidity of the organs of generation.

So far as regards the many diseases, the relief of which by castration has been either proved or postulated, we may virtually put children out of the question. They may occasionally require ovariotomy, but with that at present we have nothing to do. In one of the most recently published tables of oöphorectomies, the earliest age among the patients operated on for hæmorrhagic myoma was eighteen, for ovarian neuralgia and hysteria seventeen, and she was none the better for it, and the youngest on the malformation list was eighteen.

Péan once castrated for epileptic symptoms with mental disorder at the age of forty-five with no good result, and this is the most advanced age mentioned in the table of nervous patients. The age next below that was forty. Fifty-two is the extreme age in the table of uterine cases, and the patient died some months afterwards of cancer. It would thus seem that in all the older patients who submit to abdominal section, it is ovariotomy for cystic or other enlargement of the ovary that is done. Out of 171 cases undergoing the operation for hæmorrhagic uterine fibroids, 53 were between thirty and forty years of age, 62 between forty and fifty, and only 9 below thirty. The number of cases of oöphorectomy for other causes is comparatively small, and few of them outside the middle age. The limits of our investigation of the diseases requiring öophorectomy are thus drawn within the narrow compass of the twenty years of woman's life between the ages of thirty and fifty. The find here cannot, in the common run of things, be very rich except for fibroids. If the apostle of the doctrine could accept only 15 cases as fit for the operation in the space of ten years, we may assume that, in any great advance upon that proportion there must be either some self-deception or some want of judgment.

During the twenty years just named, the most common disease to which women are subject, connected with the organs of generation, is an abnormal development of the uterine muscular or fibroid tissue, either interstitial, or projecting from one or other of the uterine surfaces. Such tumours occasion discomfort often so great as to incapacitate for social life. They are impediments to child-bearing. They give rise to a variety of reflex nervous symptoms, sometimes almost insupportable. They may cause ascites or set up

acute or chronic peritonitis, and dangerous hæmorrhages are a notable consequence. Occasionally their pressure on the large vessels, nerves, lymphatics, ureters, rectum, and bladder has been fatal. And Roehrig declares that, among the cases bad enough to resort to Kreuznach, there has been a direct mortality of 11·4 per cent.

A disease against which stands such a formidable array of accusations calls for all the resources of science to remedy it. Although many women suffer less than can be easily explained, it must be the misery and ruin of a long series of existences. Medical treatment does not count for much. The results of myomotomy are deplorable even now, and the operation, when not fatal, has often been incomplete. The tumours have, as it were, a sort of gregarious habit, and the patient is left liable to a relapse to her former state, either from the growth of those abandoned, or from new formations. Many writers have maintained that one out of every five or six women has uterine fibroids of some kind, large or small, unheeded or troublesome. Fortunately, if it be so, the greater part of them have only a transient existence. The numbers that turn up in a state of degenerescence or transformation in the autopsies of old women show that they have a tendency to shrink up, or become innocuous, if there be a survival of the menopause.

Based on this fact, castration, as compared with myomotomy, presents us with the striking contrast of a mortality of only 14·6 per cent., a diminution of the tumours, a stoppage of the hæmorrhages, and a disappearance of many of the accompanying symptoms. Moreover, as half this mortality has been due to septicæmia, there is here a wide field for surgical enterprise.

But the uterus is only a section of the ovarian outlet, destined for the temporary sojourn of the embryo. We have not exactly determined what are the influences on the constitution of the natural functions, and do not know much of the pathology of the strictly efferent part of the tubes—the oviducts or the Fallopian tubes. Sometimes they usurp the incubatory office. Then, no doubt, as death is otherwise mostly inevitable, the best thing to do is to extirpate them as soon as we can be assured that their condition is menacing life. But latterly they have had as sorry a time of it as the London dogs. They are erectile structures, and blushed at the touch of the abdominal explorer. A cry was raised against them as subject to congestions, dropsies, constipations, purulencies, hæmorrhages, neuralgias, and as the propagators of all sorts of psychical aberrations. Then followed a savage raid, and every hypogastric malaise incurred an exploration or a sacrifice. As with other tubes, the inlet, passage, and outlet are not always as free as they should be, and the contents are not always normal. Irritated

LANE MEDICAL LIBRARY

themselves, they cause irritation elsewhere. As much may be said of and against similar things in the male. But would anyone strip off the penis for a stricture or a gonorrhœa, or castrate a man because he had a hydrocele, or was a moral delinquent? It is better to be candid and patient, say we know but little, strive to learn more, and in the meantime abstain from doing mischief. Who can diagnosticate with certainty the presence of irreparable disease in these out-of-the-way organs? An exploratory incision is an avowal of ignorance, and too often the expedient of impatience. How far is it justifiable as a means of diagnosis in diseases short of fatal, where there is time to wait?

A case of congenital malformation, with what is now sometimes called 'obstructive dysmenorrhœa,' ending fatally, under his care about the year 1866, was the inspiring cause of Battey's reasoning on the subject of the extirpation of the ovaries as a remedial measure. Gillmore was the first to put his conclusions to the test in reference to this particular point. Peaslee followed in 1876, and Battey in 1877. Battey had the satisfaction of a good result. So too it was with Gillmore's case. Since then the operation has been done for the same or similar reasons, so far as we can judge from the small numbers, with a mortality of about 15 per cent. In this category of cases we may place obstructions to the menstrual functions acquired in severe labours, by accidents, by gynæcological attempts at surgery, or occasioned by pelvic distortions, flexions, and displacements of the uterus. They are, after all, not very common, and oöphorectomy, as a means of getting rid of the difficulty, is less dangerous and more certain than the other operations done to relieve or gratify the patients.

The ovaries themselves are often the seat of pain, and the cause of acute neuralgia and hysterical symptoms. The attacks occur with the periodical excitement of the organ. Every now and then such symptoms show their connection with it by being the accompaniment to impregnation, and to some women the proof of conception. They often attend the early stage of growth of cystic disease. Repeatedly, a cessation of the attacks of pain has followed the operation of excision. This was the result in three out of four operations that I have performed. Cause, effect, and remedy are here plainly demonstrated. As to my two other operations, in one it was probable that the benefit was as much owing to the reposition of a thickened and retroflexed uterus as to the taking away of one of the ovaries, the other being in such a state of atrophy that it had no outlines, and was inert. In my fifth case the two ovaries had been amputated by surgeons of renown in Holland, at different times, without permanent benefit. At my operation there was no

trace of another ovary, and what I did was to separate part of the omentum and a coil of small intestine from the uterus, to which they were attached, and to divide another piece of omentum which adhered to both the fundus uteri and the cicatrix in the abdominal wall. Here the two castrations did no good. The liberation of abnormal connections near the seat of pain did what was wanted, and must be regarded as something more than the completion of the two oöphorectomies. All these cases had been discussed at repeated consultations among a number of experts; nothing was overlooked in the way of palliation, and no decision was taken without unbiassed deliberation. Even this small experience shows how this subject of operation for nervous dysmenorrhœa is surrounded with difficulties both of diagnosis and prognosis. In looking at the vast multitude of patients who come under professional notice, with a medley of nervous or mental symptoms so tantalising by their refractoriness and their inexplicability, we can understand how it is that many hasty, impressionable practitioners, exasperated by their fallibility, infatuated with novelty, enticed by example, and eager for local notoriety, have yielded to temptation, have risked numberless abdominal sections in the hope that chance would favour them, and so have helped to prove how strong is the contagion of folly.

When one recollects how many such cases undergo an unaccountable spontaneous cure, how often the symptoms cease after some mental impression or physical shock, or a perseverance in some extraordinary position, how many fruitful but painful ovaries have been saved by Dr. Weir Mitchell's systematic treatment, and how often it has happened that a threatened, simulated, or imperfect operation has been enough to frighten or charm away all acquaintance with suffering, doubt falls upon both the asserted necessity and the reputed success of the operation itself. It can never be determined how much is due to the amputation, how much is a psychical phenomenon. How many women have been doomed to sterility that would have been equally relieved by a farce or a failure can never be made out. But it is a query which takes the gloss off a mass of statistics.

Still we do not pretend to say that cases of nervous dysmenorrhœa, with neuralgic hysterical symptoms, are not occasionally to be met with in which medication fails, and for which there is no other alternative than operation or endurance. But we maintain with Battey, Duncan, and many other wise and prudent men, that such patients are comparatively few and far between. And it is only when one hears such well-authenticated, revolting stories as that of a young lady who, in good health, leaves her home, goes to London or some provincial town, happens to have a trifling indisposition,

LANE MEDICAL LIBRARY

consults ——, who, troubling himself only to draw out the avowal that her periods were accompanied with *quelque malaise*, on the spot insists upon oöphorectomy, and a few days afterwards does it, that the mystery of some recent statistics is unveiled. Fortunately, she lived to return and tell what had passed. If she had died, what ought to have been the verdict? Have earlier or later warnings been ill-timed or impertinent?

No one can pique himself upon the outcome of oöphorectomy for mental alienation. A few melancholy girls, worn out by long suffering, and driven to think of the river by disappointment at the abortiveness of doctoring, may have laughed and found life tolerable afterwards; for women are not morally affected by castration in the same way as eunuchs. But pure madness—no; gynæcologists will never empty the lunatic asylums. They have sent some women into them. Madhouse dissections show generally only good or atrophied ovaries, and scarcely in any real ovariotomy cases have the patients been mad.

The pleasantries of men we do not care to name, who talk of freeing the world from the mad and the bad, only point to the extinction of the human race and the self-castration of the last man—for he who cuts mad people must himself be mad. And as for nymphomania, one operator put his own person in danger when he counselled so inconsequently. He must have known that passion in women mocks at oöphorectomy, and his illogical reasoning condemned his judgment. Call a spade a spade, and what would such oöphorectomists be?

The erotic fury and bad habits which mark the ill-regulated mind are matters more for the consideration of the moralist than the surgeon. Parents, tutors, and the clergy ought to be the guides and protectors of youth. The profession can only act by instructing them. No one has more wisely handled this subject than Wheelhouse, the worthy consultant of Leeds, nor can anyone do better than recommend his pamphlets and quote the concluding sentences of one of them:

'If medical men will teach parents the true nature of the dangers to which, when they leave their fostering care, their children will be exposed—

'If parents, acting on the knowledge thus imparted to them, will conscientiously fulfil their duty to their children—

'If those to whom the education of the young is entrusted will see that ignorance is displaced in favour of wholesome knowledge—and that, as far as possible, purity of mind, as well as intellectual culture, are the objects at which they should aim, then I think all else will rest with the clergy—and that they, by their positive

LANE LIBRARY

teaching of the essential holiness of God, with the perfect, spotless character of Christ, as the revelation of the pure nature of the Deity—and as the measure of our own high calling, may rightly be left to inculcate these as the strongest of all moral antiseptics.'

The following are the conclusions that may be drawn from the facts of command :

That the operation of oöphorectomy, or the removal of normal ovaries, is one which may be advised in some cases of uterine fibroids, and in uncontrollable uterine hemorrhages.

That it is to be resorted to in certain malformations of the genital organs, deformities of the pelvis, and accidental obstructions of the vagina.

That the right to use it is very limited in cases of ovarian dysmenorrhœa or neuralgia, and only when they have resisted all treatment, and life or reason is endangered.

That in nearly all cases of nervous excitement and madness it is inadmissible.

That it should never be done without the consent of a sane patient, to whom its consequences have been explained.

That the excision of morbid ovaries and appendages should be distinguished from oöphorectomy, and ought not to be done without the authority of consultation, as in most other cases of abdominal section.

That in nymphomania and mental diseases it is, to say the least, unjustifiable.

Professional reputation is a sacred trust. Generations have handed down that of physic unsullied. To maintain it is with us a personal obligation, and our individual responsibility is now greater than ever. There is so little scope for concerted action in medicine, that the popular estimate of it must be an *ex pede* estimate. Medicine has none of the symbolical trappings of state authority or of celestial inspiration which tell upon the fears and superstition of the people. It is hope that makes them seek and cling to it as their first refuge in time of trouble. It is with them, in their homes, their guide and comforter. People pay little heed to presidents and rectors. The village doctor represents the profession to them, and each in his little circle is high priest and chancellor By his skill and conduct the whole faculty is judged. He is like one of the fragments in a mosaic. If he is unsound, goes wrong, fails in fidelity to the *lex non scripta* of his class, he falls from his place, leaves a blot which all can see, and the whole composition is marred. In the exercise of his profession each member is so independent, while all are so linked together in honour and duty, that, as sentinels, we have a mutual interest in keeping watch and ward

WELLCOME LIBRARY

LANE MEDICAL LIBRARY

over each other's loyalty, and sounding an alarm in case of default. Of late, the laparotomy epidemic has called for one of these challenges. It has roused a feeling not of jealousy, but of suspicion and concern for professional honour. When men in clubs begin to jeer at gynæcological domiciliary fussiness, and husbands are furious at the rumours of mysterious diseases, unknown to Sydenham and Cullen, being rife among their wives and daughters, there must be something wrong. It is time to look into the matter. If we hold the mirror up to Nature, only changing the sex of the actors, the spectacle is not flattering. Fancy the reflected picture of a coterie of the Marthas of the profession in conclave, promulgating the doctrine that most of the unmanageable maladies of men were to be traced to some morbid change in their genitals, founding societies for the discussion of them and hospitals for the cure of them, one of them sitting in her consultation chair, with her little stove by her side and her irons all hot, searing every man as he passed before her; another gravely proposing to bring on the millennium by snuffing out the reproductive powers of all fools, lunatics, and criminals; a third getting up and declaring that she found, at least, seven or eight of every ten men in her wards with some condition of his appendages which would prove to be incurable without surgical treatment, and a bevy of the younger disciples crowding around the confabulatory table with oblations of soup-platefuls of the said appendages; if too, we saw, in this magic mirror, ignorant boys being castrated almost impromptu, hundreds of emasculated beings moping about and bemoaning their doltish credulity, showers of cases, ready for cutting, falling like manna, every morning, at one spot, while in another they drop in at the rate of one and a half the year—should we not, to our shame, see ourselves as others see us? And if at the same time we were to hear a few of the sisterhood, more frightened than shocked, muttering remonstrances, and crying out, like the Ephesians of old, that their craft was in danger—say, should we not be bound to enter the strongest protest against their selfish wailings, and indignantly to denounce such follies as a personal degradation, a crime against society, and a dishonour to the profession?

PRINTED BY
SPOTTISWOODE AND CO., NEW-STREET SQUARE
LONDON

LANE MEDICAL LIBRARY

To avoid fine, this book should be returned on or before the date last stamped below.

M540 Wells,T.S.
W45 Modern abdomina
1891 gery.
NAME